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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,905	05/15/2001	Brian Moore	11157-23	7601

7590

06/18/2003

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EXAMINER

NGUYEN, JIMMY

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/854,905

Applicant(s)

MOORE, BRIAN

Examiner

Jimmy Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34 -57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-47 and 54-57 is/are rejected.
- 7) ☒ Claim(s) 48 -53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,11,14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 34 -57 in Paper No. 16 is acknowledged.
2. The applicants have agreed to cancel claims 1 – 33 and 58 –72 in Paper No. 16

**Claims objection**

Claims 54 and 55 are duplicated. Correction is required

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 34 – 47 and 54 – 57 are rejected under 35 U.S.C. 102(e) as being anticipated by Bach (US 6544807).

**As to claim 34**, Bach discloses (figs 1 and 2) a test circuit (100) for testing an IC (202) on a wafer (200), the test circuit (100) formed on the wafer (200) with the IC (202), the test circuit (100) comprising;

A ring oscillator circuit (104);

A plurality of sub-circuit (110) coupled to the ring oscillator circuit (104); and

A control circuit (the circuit gives output signal 102) to selectively coupled the sub-circuits (110) to the ring oscillator circuit (104),

Wherein the test circuit (100) conducts a separate test of the IC (202) for each sub-circuit (110) selected by the control circuit (the circuit gives output signal 102).

**As to claim 35**, Bach discloses (figs 1 and 2) each test conducted by test circuit (100) is a parametric test.

**As to claim 36**, Bach discloses (figs 1 and 2) the sub-circuits (110) when coupled to the ring oscillator circuit (104) change the frequency (because of the feed back signal) of oscillation of the ring oscillator circuit (104).

**As to claim 44**, Bach discloses (figs 1 and 2) the control circuit (the circuit gives output signal 102) comprises a sequencer to selectively couple the sub-circuits to the ring oscillator circuit to produce a series of test states.

**As to claims 45, 46**, Bach discloses (figs 1 and 2) the test circuit (100) is formed on the wafer (200) with at least two moralization layers of the IC and one moralization layer and one polysilicon.

**As to claim 47**, Bach discloses (figs 1 and 2) the test circuit (100) produces a test result signal that is the output of the ring oscillator circuit (104).

**As to claims 54 – 57**, Bach discloses (figs 1 and 2) the test circuit (100) is formed adjacent to a die containing the ic and it is formed on dies near the edge of the wafer (200).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 37 – 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bach (US 6544807) in view of Deyhimy et al (US 5204559).

**As to claims 37, 38, 40 ,41**, Bach discloses (figs 1 and 2) everything except for the sub-circuit comprises a capacitive and a resistive load to change the frequency of oscillation of the ring oscillator circuit. On the other hand, Deyhimy et al teach (fig 6) the sub-circuit (270 , 280, 290, 300) comprises a capacitive load (Cn) and a resistive load (Rn) to change the frequency of oscillation of the ring oscillator circuit.

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to modify Bach's sub-circuit with capacitive and resistive load

as taught by Deyhimy et al for the purpose of changing the delay or frequency of the ring circuit. (column 9 line 60 –69)

**As to claims 39, 42,** Deyhimy et al disclose (fig 6) at least one sub-circuit comprises a delay element (312) to change the frequency of oscillation of the ring oscillator circuit.

**As to claim 43,** Deyhimy et al disclose (fig 6) each inverter is a standard CMOS inverter.

***Allowable Subject Matter***

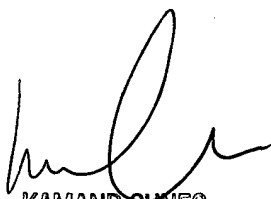
7. Claims 48 –53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior arts of record are fail to disclose a test circuit further comprises an antenna adapted to receive a signal, a power supply circuit coupled to the antenna and adapted to provide power to the test circuit and a transmitter circuit coupled to the ring oscillator and the antenna and adapted to transmit a test result signal in combination with other claim elements.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen at (703) 306-5858. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

JN.  
June 5, 2003



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